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ABSTRACT

This paper challenges those involved in early childhood education to reexamine unquestioned assumptions concerning the benefits of early schooling. A synergic effect is posited by bringing together research areas that had formerly remained somewhat autonomous: Neurophysiology, vision, hearing, parent attitudes, affective domain, comparative school entrance ages, and cognitive psychology. Following a synthesis of these data, the author concludes that there has not been a single replicated experiment that has clearly demonstrated the desirability of early schooling or day care for the normal child who can have the security of a reasonably good home. Research evidence seems to validate the undesirability of placing children under 8 years in programs of cognitive emphasis which require consistent reasoning abilities. Contrary to this, warm and consistent proximity to one's parents until age 8 appeared to be a greater predictor of eventual stability and cognitive maturity than any special effort toward cognitive development. Except where extreme handicap or deprivation indicates clinical needs outside the home, the educational implications of current research indicates that future efforts should emphasize parent and home education. (CS)

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THE DANGERS OF EARLY SCHOOLING

--The Need to Reexamine our Motives and Methods*

Raymond S. Moore

Although there is much yet to do in early childhood research, there is enough replicated evidence at hand to give us a good picture of what we should be doing in early childhood education (ECE).

In the present ECE cycle there is an unprecedented difference from the past. We are living in an explosive era of research and development new to the world. Many answers have been supplied; yet with all the skill and speed at their command, legislators and educational planners have seldom made systematic use of this scientific evidence. Earl Schaefer (1971) notes that research has "as yet had minimal impact on educational planning." Our children are the victims. Sad as this is, the guilt is not all to be laid at the door of those who plan and make the laws. For at least two reasons, we who supply the evidence must share the blame.

First, researchers tend by nature to be provincial. They concentrate on their own areas. They seldom fully relate their specific research with other

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fields. So they fail to develop a systematic approach--to see and to present the larger picture. For example, when we recently drew together the work of neurophysiologists, ophthalmologists, cognitive psychologists, maternal attachment analysts and others, a new profile of the child's needs emerged. We were surprised. Now we sense an urgency in interrelating findings from various fields as they apply to a given problem. A synergic effect is created by bringing research areas together that not only presents a truer picture but also provides greater power for implementing truth.

Second, once they have the facts or are on the track of truth, researchers often do not communicate their messages simply. They tend to speak in unknown tongues--those that are familiar only to their current professional specialty. And sometimes they even confuse their own colleagues. Recently at the annual meeting of a scientific group in New Orleans, I sensed some confusion. There was a conversational breakdown. Finally, a secure and eminent scholar admitted that he simply did not understand some of the papers--their complicated words and unclear organization. He was immediately joined by others in the assembly who had listened quietly and dumbly, afraid to admit their "ignorance."

Many concerned parents and educators simply give up trying to learn the facts, and proceed on the basis of intuition or expediency--much like the unready child who does not perform well because he fails to understand what the teacher is trying to say.

Misconceptions in ECE. It is commonly inferred these days that a parent who does not send his child to nursery school is depriving him. Or if the child

does not have the option of a day care center or a preschool he cannot be normally fulfilled or best developed. In many cases of disability or handicap such institutional care may be reasonable. Yet, if we are to believe the suggestions of replicated research, most children need not, in fact should not, be in preschool or day care. For highest and best all around development we should do all we can to provide a wholesome home environment and keep the child there, a place where he can grow in an undisturbed way sharing the freedom and chores of the home with one or two adults, preferably his parents or close family, in a warm, consistent and responsive relationship.

ECE Defined. Early childhood education is commonly viewed as a general term equated with the years before kindergarten and primary school. On the basis of a recent research review we conclude that perhaps it should bracket birth through age seven or even eight or older (Moore and Moore, 1972). We define ECE programs as including but not limited to early schooling (ES) and day care.

We believe that all children should be provided training or education from birth, but that it should be far more affectively than cognitively oriented. At this time there should be far more concern for a sound values system and stability in general than for reading, writing and arithmetic. These will come better later. And wherever possible the child's education should be in the hands of the parents until age seven or eight. Equally important, we believe that optimal pre-natal preparation should be made--in terms of the mother's nutrition, physical and emotional environment, etc.

In the United States some of the leading states have gone headlong into

legislation for earlier and earlier schooling, providing preschool programs down to age three. Some of these provide a variety of services--medical, psychological, etc. Whereas others amount to little more than day care. But most of them have readiness for school as a principal goal. And many states are being urged to provide schooling or other public care for all children, which has heretofore been provided only for the handicapped or the deprived. This points to a greater and greater substitution of public institutions for the home. You will shortly see why we cannot be sympathetic with this type of legislation.

We must assume that certain clinical and other therapeutic intervention in school or other environments may often be indicated. Many children are handicapped beyond the ability of the parents to provide therapy; therefore children should be screened to identify learning disabilities with parents involved at every step. This view implies a much larger responsibility for educators, particularly in the education of parents, than many of us apparently yet envision.

Day-care, of course, must also be provided for youngsters whose parents are physically, emotionally, or financially unable to care for them. Such day care should not be oriented to readiness programs for reading, writing, arithmetic and language arts. Rather it should provide a relatively unpressured environment in which the child can be free much like a lamb, under wise, consistent and gentle control.

Need for Research Background. At this point we do not find sound evidence for proposals that early schooling be provided for all young children down to ages three or four or five. To provide preschool or day care services for children whose homes are adequate or can be made adequate through parent education sug-

gests that we accommodate the separation of the family and reduce family responsibilities when we should be educating parents to the significance of their primary privilege and responsibility. At the proper time, preferably no earlier than eight years of age, the child can then be enrolled in school or otherwise involved systematically in basic skills with relatively little risk. Any other action clearly threatens the welfare of the child.

In America, the states of California (1972) and New York (1967) have gone so far as to suggest the desirability of academic development or formal education for children down to age three. They are apparently not suggesting highly formalized programs, but are simply interested in programs which will prepare for more formal schooling later. The objectives of these states and of many countries for the optimal development of their children are commendable. But we cannot agree that children should acquire the basic skills in school by about age 8, as California strongly urges. Scientific evidence clearly notes the undesirability of placing children younger than eight years of age in programs of cognitive emphasis which require consistent reasoning abilities. Furthermore, many studies confirm the experienced reaction of parents and clinicians that young children under seven or eight are not yet ready to accommodate to day-care centers and preschool situations. Most of them need a one-to-one relationship with a parent along with a limited involvement with other relatives and friends.

Any effort to present a systematic ECE review will be vulnerable from some point of view. Today we focus on a few of those areas which are or should be common focal points for all ECE educators and planners. These areas include cognition, neurophysiology, affective development including factors of maternal

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attachment, comparative school entrance ages, and parent attitudes and potential.

First, Cognitive Development: At what age is the child ready for systematic instruction in the basic skills of reading, writing, arithmetic and language arts? Does rapid early growth mean that stimulation through schooling is in order? At what age is he able to reason consistently from cause to effect--an ability that is vital to understanding how to read and write, for example.

Second, Neurophysiology: This includes such logical extensions of this science as studies of vision, hearing and intersensory coordination. At what point in age can a normal child's brain be said to be safely ready for typical daily school tasks? His eyes? His ears? Should he be hurried? What is the potential for learning or for loss if he is not ready?

Third, Affective Domain: What is the evidence that the normal child requires care outside the home to meet his social-emotional needs? Where can the child best develop a sound value system? Is the young child vulnerable to the many variables of the schoolroom or care center--competition for attention, habit patterns of peers, changes of teachers and aides, etc.--or do they strengthen him? Is it possible that the child often suffers insecurities, anxieties and inconsistencies when his mother is not present?

Fourth, Comparative School Entrance Ages: What does research suggest about those who enter school at younger ages? What is the picture down the road at age ten or fifteen years or older?

Fifth, Parent Attitudes and Potential: Are parents concerned enough to place the welfare of their children ahead of their own immediate freedoms? Will they respond positively if fully informed of the developmental needs of their

children? What can we do to help them?

COGNITIVE DEVELOPMENT

Some planners insist that all children should have such early education as is now provided for the disadvantaged. They argue that such stimulation is a preventive measure against learning disability, delinquency, and other ills. Child psychiatrist Dale Meers (1970, 1972) says that this is like prescribing methodone for everybody because it works for heroin addicts.

Some tend to assume that to deny such intervention to the average child would be educationally, psychologically and economically unsound. But in all of this they make one basic assumption which research suggests is untrue. They assume that the rapid development of the typical young child's intellect requires stimulation apart from and in addition to a wholesome home life.

Interpretation of Intelligence. Much of the idea of early stimulation has resulted from Benjamin Bloom's famed research review. He concluded that "in terms of intelligence measured at age 17, from conception to age 4 the individual develops 50% of his mature intelligence" (1964).

But the Bloom conclusions are plagued with problems. A number of ECE researchers whose data he used, insist that he has misinterpreted their findings. These include University of California's (Berkeley) early childhood specialist Nancy Bayley (1970) and her colleagues. Arthur Jensen (1969), after carefully checking the Bloom report and applauding its more reliable aspects, specifically warns that

> . . . This fact that half the variance in adult intelligence can be accounted for by age 4 has led to the amazing and widespread, but unwarranted and fallacious, conclusion that persons develop 50% of their mature intelligence by age 4!

Yet Bloom's erroneous conclusion constitutes perhaps the most frequently underscored "fact" on which much of the preschool planning has recently been made.

In the first place Bayley, as well as her colleague, Marjorie Honzik (1972), notes the probability from her basic data that Bloom's figures are exaggerated. Second, even if his figures were accurate, a child's "mature intelligence" at this period is not necessarily synonymous with perception or understanding or ability to reason. It is rather a potential ability to reason or to perceive. Third, if they were to make the best use of this new ability, home is in most cases a more likely place than school. The child needs a simple environment with few distractions and with relatively few people--adults or children--around. And fourth, the child cannot yet without strain make appropriate use of systematic instruction in reading, language study and arithmetic.

The early stimulation theory is much like forcing open a tight new rosebud, beautiful in its potential and perfect in its immaturity, but not yet fully ready to bloom. No matter how delicately you force it open, you more often end up with a damaged rose.

Risks of Speeding Up Children. Leading cognitive psychologists suggest the age span of seven to eleven as the time when a child becomes able to reason abstractly as required, for example, in reading. This conclusion is underscored variously by such research analysts as Piaget (1966), Rohwer (1970, 1972), Almy (1966), Elkind (1969) and Furth (1970).

As we have noted before, there is often a serious discrepancy between research and existing early schooling trends and practices. Rohwer (1972) states that

> Young children find concept-learning and tasks that require combination and manipulation of concepts to be extraordinarily demanding. Research studies have shown that reading and arithmetic require conceptual abilities that many youngsters do not achieve with ease until they are close to 9 years.

Reading at early ages, too, often becomes a word exercise rather than a thinking process. Children should be able to read with understanding, not simply to repeat words. To read properly requires an ability to reason from cause to effect. This abstract process does not come readily and consistently to the child until he is at least seven or eight or older. Rohwer (1972), speaking of most modern schooling skills, says "that many youngsters do not achieve [these skills] with ease until they are close to nine years." Elkind (1969, 1972) would avoid all unnecessary pressures--"intellectual burning"--on young children during periods of rapid mental or physical growth.

As Helen Heffernan suggests, we may be "warping children to satisfy adult demands" (1968). And Piaget says that "the problem of learning is not to be confused with that of spontaneous development even though spontaneous development always comprises learning" (1966). John Phillip reports that Piaget calls the speeding up of the development of the child's brain the "American question." Piaget's answer to this question, according to Phillip, is that "it probably can but probably should not be speeded up . . . the optimal time is not minimal time" (1969). Yet many American planners seem intent on hurrying the ECE process, and unfortunately many countries are looking to America as an example in preschool and day care.

NEUROPHYSIOLOGY

A study of the brain is also essential to any valid ECE conclusion. This

means an examination of the operating characteristics of the brain itself, the visual process, hearing and intersensory perception among other facets. Much more research is needed, yet there is sufficient evidence available to give us pause.

Brain Development. Neurophysiologists have noted for many years that there are interesting changes in brain rhythms relating to chronological age. As the very young child grows up past the first year or so he tends to move away from the very slow delta rhythms into what electroencephalographers describe as the theta waves. These for the most part, according to such researchers as Corbin (1951), Metcalf (1972), and Walter (1954) appear to be related to the area of the hypothalamus and other lower centers. To the extent that this is true, the young child during this period is dominated primarily by his emotions. This dominance appears to linger until age seven or eight or older when the higher reasoning centers appear normally to take over the dominance of the child's brain processes. This is demonstrated in studies by Yakovlev (1962, 1967), Nagera (1972), Metcalf (1972), Corbin (1951), Nelson (1967) and Lairy (1962).

Direct implications of overall neurophysiological maturity for learning are impressive. Nagera (1972), Yakovlev (1967, 1972) and others suggest that structure and function are closely related in brain development. Luria (1970 and Birch and Lefford (1963) among others have found that the intersensory processes involved in learning are a function of many parts of the brain.

Reading, for example, thought by many to be a simple task, actually involves a number of complex mental processes--functions that depend on a certain maturity of brain structure. These are, among others, (1) word recogni-

tion, (2) decoding (e.g. reading letters that stand for sounds) (3) sound articulation (e.g. differentiating between various sounds of a given vowel) (4) sequential analysis (e.g. sequence of letters and sounds) and (5) perception of various thoughts and ideas. Each process or function is not only neurophysiologically complex itself but also demands that simultaneous integration be made of all these functions. This is relatively easy for a child of eight to ten, but may be formidable for a five or six year old. He may become frustrated and give up reading, with resulting anxiety and motivational loss.

Apparently this young emotional animal needs freedom from experiences that demand accommodation to such tasks as reading and writing which require abstract reasoning abilities. Elkind (1972) notes

> . . . it must be remembered that while young children do learn easily, they learn by rote and imitation rather than by rule and reason. Their learning is capricious, non-selective and arbitrary; it is not the kind upon which formal learning should be based.

Although a small child, even perhaps at two years of age or younger, might be able to recognize simple words now and then, yet if the child is required to read or write or use numbers consistently and is not yet ready to follow through on a rational basis, he will become frustrated and may turn aside altogether from skills requiring such reasoning. In America youngsters frequently experience this frustration, and develop a motivational plateau around grades three or four. Often they unnecessarily experience the anxiety of failure. And many, if not most of them, are never motivationally renewed.

<u>Vision, Hearing and Intersensory Perception.</u> Coinciding with these findings of neurophysiologists and learning psychologists are those of ophthalmologists and optometrists. There are many conflicting beliefs respecting the ma-

turity of the young child's eyes. Yet a number of studies and much clinical experience suggests that young children are not ready for the visual-perceptive aspect of reading until they are at least seven years of age, and for some children it may be as late as nine. The young eyes, however apparently mature, are not ready for the concentration required by regular schooling nor yet able normally to accommodate near objects in a consistent way.

In 1963, Hilgartner, an ophthalmologist reported to the Texas Medical Society his and his father's 50-year study of incidence of myopia in children. He found that "the earlier children start to school the more frequently nearsightedness is discovered between the ages of 8 and 12" (1963). Where usually about one child in seven or eight should be expected to be nearsighted this ratio changed to one in two about 1939 when Texas dropped its school entrance age to 6. By 1940 the ratio was 1 to 1. And with television and even earlier schooling the ratio in 1963 was five myopes (abnormal) for every hyperope (normal), or almost the opposite from 1910.

Newton (1972), a Dallas ophthalmologist, in checking his records found the Hilgartner figures to be conservative. Hilgartner (1963) makes specific application to the modern school:

> During the 3 or 4 hours that the beginner, age 6, is in school he is using all the ocular muscles for accommodation and convergence, in order to see the pictures, drawings, etc. If he were outdoors, playing . . . games, he would not be using his eyes excessively for close work. The internal and external recti, the superior and inferior recti, as well as the obliques would not be working excessively to make the child see a single object.

This is supported by Strang (1964) and by [illegible]er and McGinnis (1970) among others. In voicing agreement that young children are basically distant-visioned

people, Carter and McGinnis suggest that

> . . . the visual mechanism at six years of age is unstable and many children have difficulty in fixating at definite points and in keeping their place in reading. Children at this age make many regressive movements and are inaccurate in moving from one line of print to the next. . . . Some children who cannot adjust to the difficulties of near vision find reading so uncomfortable that they give up trying to learn (1970).

Similar findings have been made by Rosner (1973) and by Wepman (1968) in auditory perception.

Rosner "explored the correlates" between auditory and visual perceptual skills as relates to primary grade reading and arithmetic achievement. He found that learning to read appears to depend heavily upon auditory skills. Wepman says that in some children auditory discrimination and auditory memory, that is the "ability to retain and recall speech sounds," are not well developed until the age of nine.

Similar findings have emerged from intersensory research. Birch and Lefford (1963) found that the ability to make various intersensory judgments follows a general law of growth and improves with age. They found that integration of vision, touch and muscle coordination is not normally possible until the child is seven or eight.

There is a further possibility that if the child can have the benefit of a relatively free and happy home environment, his psychological and physiological development will be sounder. Some neurophysiologists argue this way on the basis of such experiments as those of Harlow (1959), Skeels (1966) and of Rosenzweig, et. al. (1972).

Rosenzweig and his colleagues, for instance, set up three different types of

environments for the rats. The first was a standard laboratory situation in which the rats were adequately housed and fed, the second was an enriched environment in which the rats were provided a variety of things to play with. The third provided natural surroundings in which the rats were able to play among rocks, grass and twigs, and to dig in the dirt. At the end of the experiment the brain tissues of each of the rats were examined. The myelinization (sheathing of the nerve fibers) in the rats that had experienced the enriched environment was definitely better than in those that were in the standard laboratory situation. But the rats that were allowed to experience a natural environment were in all cases superior in myelinization even to the rats in the enriched environment.

Considering previously mentioned neurophysiological factors it is tempting to infer that youngsters who can enjoy a natural, i.e. home, environment are more likely to have a better quality of brain development than those who are provided "enriched" environments which substitute for the home.

AFFECTIVE DOMAIN

The socio-emotional aspects of early childhood education deserve much more study and interrelating with other factors. Methods of evaluation need refinement. Yet substantial evidence is available. Among the more poignant is maternal attachment and deprivation.

Value of Mothering. Maternal attachment/deprivation studies demonstrate both the cognitive and affective value of maintaining a warm, consistent and continuing home environment vis a vis the value of a school program, however well-planned. John Bowlby (1952, 1972, 1973) suggests that dangers from maternal deprivation may exist until eight years of age or older. And he is joined in his

conclusions by many research psychologists and psychiatrists.

Yarrow (1964) concludes that "besides the retardation of development caused through emotional factors, maturation and adjustment is markedly slowed by deprivation of sensory, social, and affective stimulation when a child cannot be with his mother" (1964).

Bowlby (1952) describes why this is true.

> The ill-effects of deprivation vary with its degree. Partial deprivation brings in its train acute anxiety, excessive need for love, powerful feelings of revenge, and arising from these last, guilt and depression. These emotions and drives are too great for the immature means of control and organization available to the young child (immature physiologically as well as psychologically). The consequent disturbance of psychic organization then leads to a variety of responses, often repetitive and cumulative, the end products of which are symptoms of neurosis and instability of character.

Spitz (1965) points out that "a child's welfare does require frustration. . . . reality testing is one of the vitally important functions of the ego". During this testing period, the warm, continuous presence of the mother, a one-to-one relationship, provides a track on which the child can develop optimum security. Any delegation of this process endangers the security of the child.

Thus, says Bowlby (1952), numerous direct studies "make it plain that, when deprived of maternal care, the child's development is almost always retarded--physically, intellectually and socially and the symptoms of physical and mental illness may appear . . . and that some children are gravely damaged for life". He suggests the inclusive ages of vulnerability:

> No doubt vulnerability diminishes slowly and, perhaps, asymptotically. All who have studied the matter would agree that vulnerability between three and five is still serious, though much less so than earlier.

> After the age of five vulnerability diminishes still further, though there can be no reasonable doubt that a fair proportion of children between the ages of five and seven or eight are unable to adjust satisfactorily to separations (1952).

In a personal letter to me (1972) and later in a documented interview (May 16, 1973), Bowlby confirmed his conviction that many children are vulnerable to maternal deprivation until as late as 10 years of age.

It is most interesting to note that the years during which maternal deprivation constitutes a hazard coincide with the age dating of the neurophysiologists and the learning psychologists, namely up to at least seven or eight years of age.

It is commonly inferred that children who come from relatively low socio-economic level homes are bound to be handicapped if they are not placed in nurseries or other day care. This is not necessarily so. Marcelle Geber (1958) carefully tested more than three hundred Uganda babies during their first year. She used Gesell standardized measurements and found that these infants were in general superior to Western children in physiological maturation and coordination, adaptability, sociability and language skills. The interesting fact is that these were low socio-economic status (SES), tribal-oriented families. Also interesting: The mothers were child-centered, continually caressing, cuddling and responding to their little ones.

Some have questioned these findings, observing that African children often mature earlier than Westerners. But Geber also took a sampling from some relatively well-to-do Uganda families. In these families the children were involved less with their mothers. Geber found that these children were much less mature in the above qualities than the babies from the low-SES mothers.

Spitz (1957) also notes that young Western children do not have adequate close contact with their parents. He states that "throughout the western world skin contact between mother and child has been progressively and artifically reduced in an attempted denial of mother-child relations.

As a result of these and other findings Bowlby (1952) has concluded that even a relatively bad home with relatively bad parents is generally better than a good institution. He points out that except in the worst cases the mother "is giving him food and shelter, comforting him in distress, teaching him simple skills, and above all is providing him with that continuity of human care on which his sense of security rests."

Bowlby (1973) does not suggest limiting the child's attachments to his mother and father. In fact he emphasizes the desirability of a broader attachment millieu--siblings, cousins, grandparents, neighborhood children, etc. But he underscores the crucial factor of the mother as the child's central attachment figure on whom he relies while he builds self-reliance, and from whom he should gradually extend his attachments without being thrust into a sink-or-swim situation. He adds:

> The criticizing of parents and taking the children out of the home and putting them into the schools as is being commonly suggested these days actually undermines the parental confidence in the parents' own role, and in their potential role. There is entirely too much criticism. The educators are guilty of undermining the home rather than building it up. (May 16, 1973)

Child psychiatrist Meers (1970) supports Bowlby in noting that in a typical preschool or care center or other institution

> The child care-giver is an employee, and there are prerogatives that derive from that status that are denied to most

biological mothers, such as, coffee breaks, sick leave, holidays and the option to leave one's charges if the conditions at work are not sufficiently gratifying.

When Meers (1970) and his colleagues made an intensive and optimistic study of child care programs in Eastern Europe and the Soviet Union, they found that many indigenous leaders were disenchanted with the communal-type care. The Director of the Hungarian Bureau of Child Care (Meers, 1972) asked why such an affluent nation as the United States would want to move backwards to universal child care, a situation from which Hungary was trying to rid itself. Wherever we look it is difficult to avoid the conclusion that, except where extreme handicap or deprivation indicates clinical needs outside the home, efforts are best spent along lines of parent and home education to improve the environment of the home rather than to substitute for it. Any substitute environment should be as much like an ideal home as possible.

Relation of Affective to Cognitive Development. The crucial importance of the relation of the child's affective development to his ability to learn is suggested by Kagan's reports (1972, 1973) of children in a relatively primitive Guatamalan village.

During the first year or two, by American measurements, the children appeared "quiet, somber, motorically passive, and extremely fearful" and well behind American children in general. There appeared to be little talk or interaction between them and others about them. They appeared retarded. But to his surprise by age 11 the village children were functioning on a cognitive level of normal middle class 11-year-olds. They were "remarkably competent in both absolute and relative terms.

Parents provided little verbal response in the infant's first year, yet "the children were nursed on demand and there was lots of physical holding, lots of skin contact." As they moved on through childhood they learned side by side with adults those skills which their culture demanded--how to make canoes, rope, tortillas or how to prepare for the June planting. Warm and consistent proximity to their parents appeared to be an even greater predictor of eventual stability and cognitive maturity than any special effort to teach them. It may be that if parents can be helped to understand this, much more will be accomplished for the child's success than through providing substitutes for his parents.

Building Values. Both the home and the school have a responsibility in building the child's value system, and in the development of a sound social, emotional creature. Bereiter (1972) simply and clearly spells out the contrast in roles on the basis of his analysis and experimentation. He distinguishes between education, skill training and custodial child care. He maintains (1) that "skill training and custodial care" are legitimate functions of the elementary schools, and (2) that "education" which he identifies with the explicit teaching of values and appropriate modes of conduct is not so well performed by the schools. He believes it more rightfully or fully takes place in the context of the family.

It is easy for a parent or teacher to forget that the child should feel needed. He should feel that he is carrying his share of the family load, and that people can count on him.

In 1959-60 we concluded an experiment with young children from about ages six to twelve which involved them in systematic daily chores in the home or school. In each experimental school room all children participated. Parents

reported weekly on each child's work performance and attitudes. Measured against control groups we found that the working children in general not only demonstrated better attitudes and occasioned fewer discipline problems, but also became higher achievers. They tended to be more responsible, dependable, neat, prompt, orderly, and industrious. They would not tolerate litter or vandalism because they cared for their rooms. A better self-concept appeared to bring with it an improvement in motivation.

SCHOOL ENTRANCE-AGE STUDIES

From still another area of experimentation, comparative studies of early and late school entrants overwhelmingly indicate that later entrants generally excel in achievement, adjustment, leadership in general, social-emotional development and motivation. We have reviewed at least 20 such studies. They suggest that children remaining at home until later than average, do better than average. These studies have been made of high, middle and low-SES youngsters, and measurements have been taken at virtually all grade levels with substantially the same results. Halliwell (1968), in his "Reviewing of Reviews on School Entrance Age and School Success," concludes that

> The analysis of the reviews on entrance age and school success in the elementary school indicates conclusively that . . . early entrance to first grade does result in lower achievement. . . . the advantages of postponing early entrance to first grade programs as they are presently conducted are very real.

Kagan (1973) believes his work shows how we may further handicap children who are already disadvantaged. His experiments suggest that

> . . . we've got to stop the very early, . . . premature rank-ordering of children in grades one, two, and three. We decide too soon. Poor children enter the school system (a) with less motivation, be-

> cause they see less value in intellectual activity, and (b) one or two years behind in the emergence of what I call executive-cognitive functions (what Piaget would call concrete operational thinking). They are going to get there, but they are a year or two behind. We arbitrarily decide that age seven is when the race starts, so you have a larger proportion of poor than of privileged children who are not yet ready for school instruction. And then we classify them, prematurely. Let's use the example of puberty. Suppose we decided that fertility was important in our society and that fertility should occur at age 13. Then if you're not fertile at 13, we conclude that you are never going to be fertile, and we give you a different kind of life. It's illogical, because that 13-year-old who is not fertile now will be next year.

Rank correlations from Husén's (1967) study of mathematics teaching in 13 countries were analyzed by William Rohwer (1970). He found essentially that the earlier children went to school the more negative their attitudes toward schooling. Husén (1972) subsequently expressed agreement with Rohwer's analysis. If this composite is a true picture, then one wonders why we suggest schooling at even earlier ages, instead of using our resources primarily to strengthen the home.

Synergism. A synergic effect indeed appears to be confirmed here. Note that when the research in these areas--neurophysiology, vision, hearing, parental deprivation, etc.--is interrelated, there is a remarkable similarity of findings respecting age of readiness--seven or eight to eleven--to leave home and/or go to school. The findings become much more powerful when brought together than when examined in each of their areas separately.

PARENT ATTITUDES AND POTENTIAL

Some say that parents want their freedom too much to be concerned about their children, or that they will not respond to their children's developmental

needs. Intuitively this may appear to be so. Research suggests, on the contrary, that parents are concerned about their children's welfare. Lewis (1970) points out that this includes parents who are poor.

Hess and Shipman (1968) among others acknowledge that many working class mothers have inferiority feelings about their relationship with the educational process. Yet in their study of mothers, ranging from middle class to those on public assistance, "The majorit of mothers in all social class groups (including more than 70% of those on public assistance) said they would like their children to finish college." Hess and Shipman also underscored the need for parent education, "particularly as regards interaction between the school and the parent . . .".

Studies by Mildred Smith (1968), Daugherty (1963) and Blatt and Garfunkel (1969), also suggest that parents will respond. Their consensus indicates that parents are anxious to help fulfill their children when carefully informed of what is best for them and how to meet these needs in uncomplicated ways. There is evidence then that a society which faces the challenge of the environment--polluted streams and air--will also respond to the concerns of human ecology, especially those of their own children.

Parents and Home Projects. Strom (1971), experimenting with low-SES mothers in a toy training program, found that the home can provide a far better climate for learning than normally realized. A number of researchers, scholars and planners have been experimenting with similar ECE growth programs centered in the home. These include Susan Gray (1969, 1971), Ira Gordon (1967, 1968, 1969), Merle Karnes (1970), Phyllis Levenstein (1971), and David Weikart

(1971). They are encouraged by the thinking and experiments of such researchers and scholars as Ainsworth (1967), Bronfenbrenner (1971), Hess (1968), Kirk (1972), Meers (1970), Nimnicht (1972, 1973), Rohwer (1970), Burton White (June, 1972; July, 1972) and Sheldon White (1970).

To some, such as Nimnicht, Blatt and Garfunkel, Meers and Schaefer, this represents a modification or reversal in their thinking. Nimnicht (1972, 1973), a former chief psychologist for Head Start, now suggests that

> The early years are crucial in the development of a child's potential. . . . But there's no evidence that a young child needs to go to nursery school. It's my hunch that twenty minutes a day playing with his mother does a preschooler as much good as three hours in a classroom.

Blatt and Garfunkel (1969), who originally postulated that preschool would indeed be helpful in the development of young children, studied low-SES children who "were at least two years away from entering the first grade." They found it necessary to reverse their hypothesis and to conclude that (a) the home is more influential than the school, (b) the school can do little without home support, (c) disadvantaged parents "are often anxious to cooperate" and (d) school organization is foreign to these parents who in turn are blamed by the school for not accepting them.

Where necessary, the skillful intervention in behalf of even one child in the home can work as a yeast throughout the entire family, benefiting the remaining children. Instead of being encouraged to abrogate their responsibility, the parents should be helped to see their children's developmental needs and to meet them constructively. They should be taught to involve their children gradually from infancy in chores and other responsibilities in the home which help mold

attitudes and values.

RESEARCH AND PRACTICE: SOME SUGGESTIONS

Mothers and "Teaching". Mothers apparently need not worry about "teaching" as such. The evidence suggests that they simply should be mothers--warm, responsive and as consistent as possible, providing a happy climate as the bud begins to bloom. They can share the work of the home more and more, giving the child the experience of being needed and the therapeutic experience of doing something for others. If they do this, they will most likely send to the school youngsters who are more stable, optimistic, self-respecting, better disciplined and more highly motivated. Such a program is integrative instead of devisive from the family point of view and normally should provide for the child the warm, unbroken environment he needs.

More often than not such parent-home education will also gain parental understanding and support for the school. Where many now are urging parental participation in preschools, we suggest that the educational community center its efforts on the home rather than the school wherever possible, at least for the child's first seven years.

Some mothers will, of course, rebel at the idea of caring for their own children through the day. They want their own freedom. Neurophysiologist Nagera (1972) asks, in effect, if mothers are willing to sacrifice the child's freedom in order to support their own desires. Says Nagera,

> It is most unfortunate that many spurious issues have attached themselves to the question of Day Care Centers. For example, women liberation movements, that in their legitimate search for equality of rights and opportunities make blind demands for Day Care facilities without considering the equal rights of the

> child to develop intellectually and emotionally as fully as possible. . . . I want to make it quite clear that I have no objection whatsoever to women's legitimate rights for equality of opportunities, education and the like. But I do have, as I state elsewhere (1972), the strongest objection to neglecting the similarly legitimate rights of infants, especially since they cannot speak up for themselves and cannot look after their best interest.

Let me re-emphasize that we recognize special educational needs for the handicapped, broadly speaking. We are aware of the need for child care facilities where parents are disabled or forced to work. Yet even in these cases research indicates that wherever practicable the therapy and care should be carried on in the home or in an environment simulating or identified as closely as possible with the home.

Furthermore, from the practical standpoint of the taxpayer--a factor more and more to be reckoned with--working with the home rather than the school has been found to be substantially more cost effective. This is confirmed by Bereiter (1973), Gray (1971), Schaefer (1972, letter and article) and many others.

It is more convenient to move along with the massive trend to early schooling and other programs (1) which would provide maternal freedom at the expense of the child and (2) which would threaten the integrity of the home. But convenience that is incompatible with truth may be deceptive. We have repeatedly asked our critics for facts to support their criticisms of our conclusions favoring the home. It has been promised, but to date it has not been provided. Several points should be specifically noted:

1. A number of the world's leading ECE scholars advise us that little if any reproducible research evidence exists in favor of generalized early schooling. No long-term studies have yet shown that elective day care or preschool develops

the larger potential throughout a child's life that is provided by a reasonably good home. There is no longitudinal evidence that care out of the home makes a child a more stable, sociable, responsible and higher-achieving citizen.

2. Some scholars are deeply concerned about the indifference of many educational planners to the findings of research.

3. A number of leading ECE authorities are modifying or reversing their positions, or have reported that they have been forced to deny their research hypotheses favoring general early intervention outside the home.

SUMMARY

In summary, we have not been able to find a single replicated experiment which has clearly demonstrated the desirability of early schooling or day care for the normal child who can have the security of a reasonably good home.

There is reason to believe that the employment of teachers in helping parents to understand their roles and their children better is in most cases much more productive and involves far less risk than to attempt substitution for those parents.

The ECE planner in general has not been as faithful as he might have been in developing the facts of research and organizing them for legislators and administrators. However, the researchers themselves are in part to blame--they often fail to interrelate their findings with other ECE research and thus lose much of their potential impact on planning. Nor is their language simple enough for the planner; often it is actually confusing.

Whether we study the development of the brain or compare school entrance

ages, the voice of research is consistent. Whether we assess the age of readiness to read or the importance of parental vs teacher influence, the evidence heavily weighs in favor of the home. And when we review research on cognition and studies on maternal attachment and deprivation, it is difficult to understand how an objective person can conclude in favor of preschool or daycare, unless absolutely necessary. Furthermore, when studies show that parents will provide care in the home when fully informed of the developmental needs of their children, a great challenge for parent education emerges. This perhaps should be the main educational thrust of our century. The combination of parent education and of home care for the majority of our children, along with warm surrogate care for the less fortunate, may well be the crucial factor in the survival of the family and of our civilization.

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--Raymond S. Moore

BIBLIOGRAPHY

Ainsworth, Mary D., et. al. "The Effects of Maternal Deprivation: A review of findings and controversy in the context of research strategy," Deprivation of Maternal Care, a Reassessment of its Effects, New York, Shocken Books, 1967.

Almy, Millie, Edward Chittenden and Paula Miller. Young Children's Thinking, Teachers College Press, Teachers College, Columbia University, New York, 1966.

Bayley, Nancy. "Development of Mental Abilities," Carmichael's Manual of Child Psychology, Vol. I, Edited by Mussen, John Wiley & Sons, Inc., 1970, 1186.

Bereiter, Carl. "Schools Without Education," Harvard Educational Review, Vol. 42, No. 3, August 1972.

Bereiter, Carl. Personal Communication, April 19, 1973.

Birch, H. G. and A. Lefford. "Intersensory Development in Children," Monographs of the Society for Research in Child Development, 1963, 28 (5, Whole No. 89).

Blatt, Burton and Frank Garfunkel. The Education of Intelligence, The Council for Exceptional Children, Washington, D. C., 1969.

Bloom, Benjamin S. Stability and Change in Human Characteristics, John Wiley & Sons, New York, 1964, 88. (See Jensen, this bibliography).

Bowlby, John. Maternal Care and Mental Health, Geneva: World Health Organization, 1952.

Bowlby, John. Personal Communication, December 18, 1972.

Bowlby, John. Documented Interview, May 16, 1973.

Bronfenbrenner, Urie. Is Early Intervention Effective? Unpublished Manuscript, Cornell University, 1973.

California State Task Force Report. "Report of the Task Force on Early Childhood Education," Wilson Riles, State Superintendent of Public Instruction and The State Board of Education, Sacramento, 1972.

Carter, Homer L. J., and Dorothy J. McGinnis. Diagnosis and Treatment of the Disabled Reader. London: The MacMillan Co., Collier-MacMillan Ltd., 1970.

Corbin, Penuel H. Thesis submitted to the Faculty of the Graduate School. University of Minnesota, for Master of Science Degree in Pediatrics, June, 1951. NA MED LIBRARY, W4A, qC791E, 1951, C1.

Daugherty, Louise G. NEA Journal, December, 1963, 18-20.

Elkind, D. "Piagetian and Psychometric Conceptions of Intelligence," Harvard Educational Review, 39:2, 1969, 319-337.

Elkind, D. Interview in Today's Child, January, 1972.

Furth, Hans G. Piaget for Teachers, Prentice-Hall, Inc., Englewood Cliffs, N. J., 1970, 1, 3, 4.

Geber, Marcelle. "The Psycho-Motor Development of African Children in the First Year, and the Influence of Maternal Behavior," Journal of Social Psychology, 47, 1958, 185-195.

Gordon, Ira J. A Parent Education Approach to Provision of Early Stimulation for the Culturally Disadvantaged, Final Report, ERIC No. ED 017 339. Gainesville: University of Florida, College of Education, 1967.

Gordon, Ira. "The Young Child: A New Look," Early Childhood Education Rediscovered, Edited by Joe L. Frost, Holt, Rinehart and Winston, Inc., New York, 1968, 11, 13.

Gray, Susan W. Selected Longitudinal Studies of Compensatory Education --A Look from the Inside. Nashville: George Peabody College for Teachers, Demonstration and Research Center for Early Education, 1969, 13.

Gray, Susan W. "The Child's First Teacher," Childhood Education, 48:3 December, 1971, 127-129.

Halliwell, Joseph W. "Reviewing the Reviews on Entrance Age and School Success," Readings in Educational Psychology, Edited by Victor H. Noll and Rachel P. Noll, 2nd Ed., Macmillan, New York, 1968, 65.

Harlow, Harry F. "Love in Infant Monkeys," Scientific American, Vol. 200, No. 6, June, 1959, 68-74.

Heffernan, Helen. "A Vital Curriculum for Today's Young Child," Early Childhood Education Rediscovered, Edited by Joe L. Frost, Holt, Rinehart and Winston, Inc., New York, 1968, 494, 496, 497.

Hess, Robert D. "Early Education as Socialization." Reprinted from Robert D. Hess and Roberta Meyer Bear, editors, Early Education, Chicago: Aldine Publishing Company, 1968.

Hess, Robert D. and Virginia C. Shipman. "Maternal Attitudes Toward the School and the Role of Pupil: Some Social Class Comparisons," Developing Programs for the Educationally Disadvantaged, A. Harry Passow, editor, Teachers College Press, Teachers College, Columbia University, New York, 1968, 127, 128.

Hilgartner, Henry L. "The Frequency of Myopia Found in Individuals Under 21 Years of Age," Unpublished Manuscript, Austin, Texas, 1963. First reported by Moselle Boland in "Going to School Too Soon Blamed for Eye Troubles," Houston Chronicle (Texas) April 30, 1963.

Honzik, Marjorie, Personal Communication to Raymond S. Moore, September 29, 1972.

Husen, Torsten. International Study of Achievement in Mathematics, Vol. II. Uppsala: Almquist and Wiksells, 1967.

Husen, Torsten. Letter to Dr. Raymond S. Moore, November 23, 1972.

Jensen, Arthur R. "How Much Can We Boost IQ and Scholastic Achievement? Harvard Educational Review, 39:1, Winter, 1969, 18.

Kagan, Jerome. "On Class Differences and Early Development," Education of the Infant and Young Child, Denenberg, Victor H. (Ed.), Academic Press, Inc.: New York, 1970, 10-15.

Kagan, Jerome. "Cross cultural Perspectives on Early Development," William James Hall, Harvard University, 1972.

Kagan, Jerome. "Do the First Two Years Matter? A Conversation with Jerome Kagan," Saturday Review Education, April, 1973, 41-53.

Kagan, Jerome and Whitten, Phillip. Psychology Today, December, 1970, 37-39.

Karnes, M. B., J. A. Taska and A. S. Hodgins. "The Effects of Four Programs of Classroom Intervention on the Intellectual and Language Development of Four-year-old Disadvantaged Children." American Journal of Orthopsychiatry, 1970, 40, 58-76.

Kirk, Samuel. Lecture. "Invisible College Conference on Early Childhood Education and the Exceptional Child, 1972. Council for Exceptional Children, Arlington, Virginia, 5 tape cassettes, tape #1.

Lairy, G. C., et. al. E. E. G. and Clinical Neurophysiology, Vol. 14, 1962, 778, 779.

Levenstein, Phyllis. "Learning Through (and From) Mothers," Childhood Education, 48:3, 1971, 130-34.

Lewis, Hylan. "Culture, Class, Poverty and Urban Schooling," Reaching the Disadvantaged Learner, A. Harry Passow, editor, Teachers College Press, Teachers College, Columbia University, New York, 1970, 24.

Luria, A. R. "The Functional Organization of the Brain," Scientific American, Vol. 222:3, March, 1970, 66.

Meers, Dale. International Day Care: A Selective Review and Psychoanalytic Critique, U. S. Office of Economic Opportunity, 1970.

Meers, Dale. Personal Communication, May 17, 1972.

Meers, Dale. United States Senate Joint Hearing, before the Subcommittee on Children and Youth and the Subcommittee on Employment, Manpower and Poverty of the Committee on Labor and Public Welfare, U. S. Government Printing Office, Washington, D. C., March 27, 1972.

Metcalf, David R. and Kent Jordan. "EEG Ontogenesis in Normal Children," Drugs, Development, and Cerebral Function, compiled and edited by W. Lynn Smith, Charles C. Thomas, Publisher, Springfield, Ill., 1972, 127, 128.

Milkie, George M. Personal Communication, October 13, 1972.

Moore, Raymond S. and Dennis R. Moore. "Early Schooling for All?" Congressional Record, 118:167, October 16, 1972, pp. E8726-E8740.

Moore, Raymond S. and Dennis R. Moore. "The Race to the Schoolhouse," Harper's Magazine, July, 1972.

Nagera, Humberto, M.D. Day Care Centers: Red Light, Green Light or Amber Light, Unpublished Manuscript, 1972, 5, 28-30.

Nelson, W. E. Textbook of Pediatrics, Saunders Company, Chicago, 1967, 1088.

Newton, Frank H. Personal Communication on Henry Hilgartner Study, Dallas, July, 1972.

New York State Regents, Prekindergarten Education, a position paper. The State Education Department, Albany, New York, December, 1967.

Nimnicht, Glen P. as quoted by Betty Hannah Hoffman. "Do You Know How to Play with Your Child?" Woman's Day, August, 1972, 46, 118. Confirmed by personal letter from Dr. Nimnicht, September 29, 1972.

Phillip, John L. The Origins of Intellect. Theory, by H. W. Freeman & Co., San Francisco, 1969, 132, 149.

Piaget, Jean in "Forward," Almy, Millie, with Edward Chittenden and Paula Miller. Young Children's Thinking, Teachers College Press, Columbia University, New York, 1966, iv.

Rohwer, William D., Jr. "On Attaining the Goals of Early Childhood Education," A Paper Presented at OEO Conference on Research in Early Childhood Education, Washington, D. C., 1970.

Rohwer, William D., Jr. Speech to the National Leadership Training Institute in Early Childhood Education and Special Education, Today's Child, May 1972.

Rosner, Jerome. "Language Arts and Arithmetic Achievement, and Specifically Related Perceptual Skills," American Educational Research Journal, Vol. 10, No. 1, Winter, 1973, 59-68.

Rosenzweig, Mark R., Bennett, Edward L. and Marian Cleeves Diamond. "Brain Changes in Response to Experience," The Scientific American, February, 1972, 22-29.

Schaefer, Earl S. "Toward a Revolution in Education: A Perspective from Child Development Research," The National Elementary Principal, Vol. LI, No. 1, September, 1971, 18.

Schaefer, Earl S. "Parents as Educators: Evidence from Cross-Sectional, Longitudinal and Intervention Research," Young Children, Vol. XXVII, No. 4, April, 1972, 236-238.

Schaefer, Earl S. Personal Communication, July 18, 1972.

Skeels, Harold M. Adult Status of Children With Contrasting Early Life Experiences: A Follow-Up Study. Monograph of the Society for Research in Child Development, Chicago: University of Chicago Press, 1966, Serial No. 105:31:1-68.

Smith, Mildred Beatty. "School and Home: Focus on Achievement," Developing Programs for the Educationally Disadvantaged, A. Harry Passow, editor, Teachers College Press, Teachers College, Columbia University, New York, 1968, 106, 107.

Spitz, Rene A. No and Yes, International Universities Press, New York: Bailey and Swinfen, London, 1957, 124.

Spitz, Rene A. in collaboration with W. Godfrey Cobliner. The First Year of Life, International Universities Press, Inc., New York 1965, 148.

Strang, Ruth. Diagnostic Teaching of Reading. McGraw Hill Book Company, New :York, 1964, 164-165.

Strom, Robert and William Ray. "Communication in the Affective Domain," Reprinted from Theory Into Practice, October, 1971.

Walter, W. Grey. "The Electrical Activity of the Brain," Scientific American, Vol. 190, No. 6, June, 1954, 54.

Weikart, David P. "Learning Through Parents: Lessons for Teachers," Childhood Education, 48:3, 135-137.

Wepman, Joseph M. "The Modality Concept--Including a Statement of the Perceptual and Conceptual Levels of Learning," Perception and Reading, Proceedings of the Twelfth Annual Convention, International Reading Association, Newark, Delaware, Vol. 12, Part 4, 1968, 1-6.

White, Burton L. as quoted in "When Should Schooling Begin?" Phi Delta Kappan, June, 1972, 612, 613.

White, Burton L. Personal Communication to Nelson Aldrich, July 20, 1972.

Wirtz, Morvin A. Personal Communication, July 19, 1972.

Yakovlev, P. I. "Morphological Criteria of Growth and Maturation of the Nervous System in Man," Mental Retardation, Proceedings of the Association for Research in Nervous and Mental Disease, Vol. 39, L. C. Kolb, R. L. Masland and R. E. Cooke, editors, Williams and Wilkins, Baltimore, 1962, 3-46.

Yakovlev, P. I. and A-R Lecours. "The Myelogenetic Cycles of Regional Maturation of the Brain," Regional Development of the Brain in Early Life, A. Minkowski, editor, Blackwells Scientific Publications, Oxford, 1967, 3-70.

Yakovlev, P. I. Personal Communication, July 25, 1972.

Yarrow, L. J. "Separation from Parents during Early Childhood," in Martin and Lois Hoffman, editors, Child Development Research I, Russell Sage Foundation, New York, 1964, 127.